

REMARKS

The Applicants have carefully reviewed the Office Action dated July 18, 2008, and respectfully request reconsideration of the application and a notice of allowance in the subject patent case.

Claims

Claims 1-11, 13, 18 and 19 were pending in this patent application. Claims 1, 2, 11, 13, 18 and 19 are rejected and, Claims 3-10 are objected to as being dependent on a rejected base claim, in the above-mentioned Office Action.

Claims 1, 3, 6 and 11 are amended. Claims 13, 18 and 19 are canceled. Claims 20-26 are added. Support for the amendment to Claim 1 can be found in the originally filed specification on page 2, lines 22-29 and on page 3, lines 18-24. Support for the amendment to Claim 3 can be found in the originally filed specification on page 2, lines 18-22 and on page 3, lines 7-12. Claims 6 and 11 are amended to depend from Claim 3 instead of Claim 1. Further, a typographical error in Claim 11 is corrected. Support for new claims 20, 21, 22, 23, 24, 25 and 26 can be found in original claims 4, 5, 7, 8, 9, 10 and 11, respectively. Thus, no new matter has been added as a result of the amended claims and the new claims.

Summary of the Claimed Invention

The invention of independent Claim 1 is directed to a method of providing gas to a system which separates from a pressurized supply gas, product gas. The method including conditioning the supply gas by dividing the gas supply into system gas and supply gas, feeding the supply gas through a condenser where the supply gas is cooled by a cooling and moisture is removed from the supply gas to dry the supply gas, passing the system gas through a cooling device where the system gas is cooled, and using the cooled system gas as the coolant in the condenser. The cooled system gas is compressed after using the cooled system gas as a coolant in the condenser, and is used in a heat exchanger to warm the supply gas after drying, to further condition the supply gas to bring the temperature of the supply gas to assume a predetermined operating range for the downstream separating system.

The invention of independent Claim 3 is directed to a method of providing gas to a system which separates from a pressurized supply gas, a product gas, the method comprising

conditioning the supply gas by both cooling and drying the gas, wherein the supply gas is cooled sufficiently to remove moisture from the supply gas by condensation, and wherein a gas supply is separated into system gas and supply gas, and the supply gas is fed to a condenser where the supply gas is cooled by a coolant and moisture is removed from the supply gas to dry the supply gas, and the system gas is passed to a cooling device where the system gas is cooled, and then the cooled system gas is used as the coolant in the condenser.

Rejection of Claims 18 and 19 Under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected Claims 18 and 19 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The Applicants submit that Claims 18 and 19 are canceled and therefore, this rejection is moot.

Rejection of Claims 1, 2 11 and 13 Under 35 U.S.C. §102(b)

The Examiner has rejected Claims 1, 2, 11 and 13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,793,832 to Veltman. The Examiner alleges that Veltman teaches a method of providing gas to a system which separates from a pressurized supply gas, a product gas. As set forth above, the Applicants submit that Claim 1 is amended and Claim 13 is canceled. Thus, as to Claim 13, this rejection is moot. With regards to amended Claim 1, the Applicants submit that the claimed invention is distinguishable from Veltman. There is nothing in Veltman to teach or suggest a method wherein a gas supply is separated into system gas and supply gas, as recited in amended Claim 1. Further, Veltman does not teach or suggest a method whereby the supply gas is fed to a condenser where the supply gas is cooled by a coolant and moisture is removed from the supply gas to dry the supply gas, and the system gas is passed to a cooling device where the system gas is cooled, and then the cooled system gas is used as the coolant in the condenser. the cooled system gas is compressed after using the cooled system gas as a coolant in the condenser, and is used in a heat exchanger to warm the supply gas after drying, to further condition the supply gas to bring the temperature of the supply gas to within a predetermined operating range for a downstream separating system, as recited in amended Claim 1. In Veltman, a heat exchanger (40) is disclosed only in the context of being used to cool a gas supply prior to conditioning the supply gas. Thus, the Veltman reference does not fairly teach or suggest the claimed invention in amended Claim 1.

Therefore, the Applicants submit that Claims 1, 2 and 11 are patentable over Veltman. Further, the Applicants submit that Claim 2 depends from independent Claim 1 and since Claim 2 depends from a patentable base claim, Claim 2 is also patentable over Veltman. Claim 11 has been amended to depend from Claim 3 instead of Claim 1.

Furthermore, the Applicants submit that Claim 2 is independently patentable over the Veltman reference because there is not teaching or suggestion in Veltman of a method wherein the supply gas is cooled sufficiently to remove moisture from the supply gas by condensation, as recited in Claim 2.

Rejection of Claims 1 and 2 Under 35 U.S.C. §102(e)

The Examiner rejects Claims 1 and 2 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,048,231 to Jones. As set forth above, the Applicants submit that Claim 1 is amended and as amended, the claimed invention of Claim 1 is distinguishable from the Jones reference. The Examiner alleges that Jones teaches a method of providing gas to a system which separates from a pressurized supply gas, a product gas, the method including conditioning the supply gas by both cooling and drying the gas. The Applicants submit that there is nothing in Jones to teach or suggest a method wherein a gas supply is separated into system gas and supply gas, as recited in amended Claim 1. Further, Jones does not teach or suggest a method whereby the supply gas is fed to a condenser where the supply gas is cooled by a coolant and moisture is removed from the supply gas to dry the supply gas, and the system gas is passed to a cooling device where the system gas is cooled, and then the cooled system gas is used as the coolant in the condenser. the cooled system gas is compressed after using the cooled system gas as a coolant in the condenser, and is used in a heat exchanger to warm the supply gas after drying, to further condition the supply gas to bring the temperature of the supply gas to within a predetermined operating range for a downstream separating system, as recited in amended Claim 1. Thus, the Jones reference does not fairly teach or suggest the claimed invention in amended Claim 1.

Therefore, the Applicants submit that Claim 1 is patentable over Jones. Further, the Applicants submit that Claim 2 depends from independent Claim 1 and since Claim 2 depends from a patentable base claim, Claim 2 is also patentable over Jones.

Moreover, the Applicants submit that Claim 11 is amended to depend from Claim 3 which is a patentable base claim and therefore, the Applicants submit that Claim 11 is also patentable. Furthermore, Claim 11 is independently patentable because neither the Veltman nor the Jones references, taken either alone or in combination, teach or suggest a method wherein ambient air is utilized as a coolant in a pre-cooler heat exchanger to cool the gas supply prior to conditioning the supply gas.

New Claims 20-26

The Applicants submit that Claims 20-26 are patentable over the Veltman and Jones references. Claims 20-26 depend either directly or indirectly from amended Claim 1. For the reasons set forth above, the Applicants submit that Claim 1 as-amended is patentable over Veltman and/or Jones. Thus, since Claims 20-26 depend from a patentable base claim, they are also patentable. Moreover, the Applicants submit that Claims 20-26 are independently patentable.

In regards to Claim 20, neither Veltman or Jones teaches or suggests a turbine as a cooling device over which the system gas is expanded.

With respect to Claim 21, neither the Veltman or Jones references teaches or suggests a method wherein a gas supply is hot highly pressurized gas and energy recovered from the hot pressurized gas by a turbine is utilized by a conditioning apparatus to drive a compressor to compress and warm a system gas after the system gas has been used as a coolant in a condenser.

In regards to Claim 22, neither Veltman or Jones teaches or suggests further conditioning of the supply gas by warming the supply gas with a warming fluid.

In regards to Claim 23, neither Veltman or Jones teaches or suggests a warming fluid including compressed system gas from a compressor driven by a turbine.

With respect to Claim 24, neither Veltman or Jones teaches or suggests sensing the temperature of the supply gas downstream of the heat exchanger, to provide an input to a controller which opens and closes a valve in response, to control the flow of the warming fluid to the heat exchanger.

With respect to Claim 25, neither Veltman or Jones teaches or suggests exhausting a system gas from the heat exchanger.

In regards to Claim 26, neither Veltman or Jones teaches or suggests utilizing ambient air as a coolant in a pre-cooler heat exchanger to cool the gas supply prior to conditioning the supply gas.

Thus, the Applicants submit that based on the reasoning set forth above, Claims 20-26 are patentable over the Veltman and/or Jones references.

Allowable Subject Matter

The Examiner objected to Claims 3-10 as being dependent upon a rejected base claim (i.e., Claim 1) but would be allowable if rewritten in independent from including all of the limitations of the base claim and any intervening claims. The Applicants submit that the features of original Claims 1 and 2 are incorporated into Claim 3. Further, as amended, Claim 3 is an independent (instead of a dependent) claim. Thus, the Applicants submit that amended Claim 3, and Claims 4-10 depending therefrom either directly or indirectly are in condition for allowance.

CONCLUSION

The Applicants submit that pending Claims 1-11 and 20-26 are patentable based on the prior art references cited by the Examiner and made of record in the subject patent application. Thus, the Applicants submit that the pending claims are in condition for allowance and therefore, prompt issuance of a Notice of Allowance is respectfully requested.

Respectfully submitted,



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